

Atty. Dkt. No. 2001P14844US

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 1-9 and 21-22 are cancelled.

Claims 10-12, 14-17, and 19-20 are now pending in this application.

Claim Rejections

Claims 1, 2, 4-9, 15-17, and 19-22 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Applicant respectfully traverses this rejection. Claims 1-9 and 21-22 have been cancelled. As such, the remaining claims that stand rejected are Claims 15-17 and 19-20.

On page 3 of the Office Action, the Examiner notes “[a]s per claims 16-17, and 19-20, they are rejected because they depend directly or indirectly from claim 15.” With respect to claim 15, the Examiner states: “claim 15 is related to modulating or demodulating a signal without providing any practical application that produces a useful, tangible and concrete result. Signals, *per se*, are non-statutory subject matter in the category of abstract ideas.” Applicant respectfully disagrees.

First, Claim 15 is a system claim with elements written in “means-plus-function” claim language reciting functions that provide a practical application and a useful, tangible and concrete result. The functions identified in Claim 15 include:

obtaining $\pi/4$ differential quadrature phase shift keying (DQPSK) symbols;

translating the $\pi/4$ DQPSK symbols into quadrature phase shift keying (QPSK) symbols utilizing the formula $S_{QPSK}(t) = (\text{real}(S(t)) + i\text{mag}(S(t))) * (\text{real}(S(t-1)) - i\text{mag}(S(t-1)))$, where $S(t)$ is a DQPSK symbol at time t , and $S_{QPSK}(t)$ is a QPSK symbol at time t ;

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mapping the QPSK symbols to a pair of bits;
obtaining communication bits indicative of the outbound communication signal;
translating the communication bits to three communication bits; and
mapping the translated bits to DQPSK symbols.

These functions can be implemented by a modem, such as the modem of Claim 10, which the Examiner has noted as allowable. Obtaining, translating, and mapping signals are important telecommunication operations. As such, Claim 15 does provide a practical application and a useful, tangible and concrete result.

Second, contrary to the Examiner's assertion, signals are not "per se non-statutory subject matter." The M.P.E.P. says as much in §2106 IV B.1(c), explaining that a "signal claim directed to a practical application of electromagnetic energy is statutory regardless of its transitory nature." See also, *In re Breslow*, 616 F.2d 516, 519-21, 205 USPQ 221, 225-26 (CCPA 1980).

For at least these reasons, Applicant respectfully requests withdrawal of the rejection of Claims 15-17 and 19-20.

Allowed Claims

Applicant thanks Examiner for noting Claims 10-12 and 14 as allowed.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

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The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-2179.

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Respectfully submitted,



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